

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A plant-produced immunoglobulin, wherein the immunoglobulin has a glycopeptide profile comprising at least one glycopeptide which lacks fucose, and wherein the immunoglobulin is an IgA molecule.
2. (Original) The immunoglobulin of claim 1, wherein the at least one glycopeptide comprises an asparagine (Asn) residue.
3. (Currently amended) A plant-produced heavy chain (HC) or light chain (LC) of an immunoglobulin, wherein the immunoglobulin is an IgA molecule; and wherein the HC or LC has a glycopeptide profile comprising at least one glycopeptide which lacks fucose.
4. (Original) The HC of claim 3, wherein the at least one glycopeptide comprises an asparagine (Asn) residue in the CH2 region.
5. (Previously Presented) The immunoglobulin of claim 1, wherein the immunoglobulin has a free glycan profile comprising at least one glycan which lacks fucose.
6. (Original) The immunoglobulin of claim 5, wherein the immunoglobulin comprises an asparagine (Asn) residue.
7. (Original) The immunoglobulin of claim 5, wherein the glycan profile is the same as or substantially the same as that provided in Figure 12.
8. (Original) The immunoglobulin of claim 5, wherein the glycan is selected from the group consisting of 3Man, 2GlcNAc, 1Xyl; 2 Man, 2GlcNAc, 1Xyl; 3Man, 3GlcNAc, 1Xyl; 3Man, 2GlcNAc; 3Man, 3GlcNAc; 4Man, 2GlcNAc; 5 Man, 2GlcNAc; and 6Man, 2GlcNAc, wherein Man = Mannose, GlcNAc = N-acetylglucosamine and Xyl = xylose.

9. (Original) The immunoglobulin of claim 5, wherein the glycan is 3Man, 2GlcNAc, 1Xyl or 2 Man, 2GlcNAc, 1Xyl, wherein Man = Mannose, GlcNAc = N-acetylglucosamine and Xyl = xylose.

10. (Withdrawn) The immunoglobulin of claim 5, wherein the glycan profile is the same as or substantially the same as one of the glycan profiles provided in Figure 16.

11. (Previously Presented) The immunoglobulin of claim 5, wherein the glycan is selected from the group consisting of 2 Man, 2GlcNAc, 1Xyl; 3Man, 2GlcNAc; and 3Man, 2GlcNAc, 1Xyl, wherein Man = Mannose, GlcNAc = N-acetylglucosamine and Xyl = xylose.

12. (Previously presented) The immunoglobulin of claim 5, wherein the glycan is selected from the group consisting of 8Man, 2GlcNAc; 3Man, 2GlcNAc, 1Xyl; 4Man, 2GlcNAc, 1Xyl; 5Man, 2GlcNAc; 6Man, 2GlcNAc; 7Man, 2GlcNAc; 3Man, 3GlcNAc, 1Xyl; and 4Man, 2GlcNAc, wherein Man = Mannose, GlcNAc = N-acetylglucosamine and Xyl = xylose.

13-15. (Cancelled)

16. (Currently amended) The immunoglobulin of claim [[14]] 1, wherein the immunoglobulin is an IgA antibody with a heavy chain and a light chain.

17. (Original) The immunoglobulin of claim 16, wherein the immunoglobulin is an anti-herpes simplex virus antibody.

18. (Cancelled)

19. (Withdrawn and Currently amended) The immunoglobulin of claim [[18]] 1, wherein the immunoglobulin is an anti-dual integrin antibody.

20. (Withdrawn) The immunoglobulin of claim 19, wherein the immunoglobulin is an anti- $\alpha V\beta 3$, $\alpha V\beta 5$ dual integrin antibody.

21. (Withdrawn) The immunoglobulin of claim 5, wherein the glycan profile is the same as or substantially the same as the glycan profile provided in Figure 19.

22. (Withdrawn) The immunoglobulin of claim 5, wherein the glycan profile is the same as or substantially the same as the glycan profile provided in Figure 21.

23. (Withdrawn) The immunoglobulin of claim 5, wherein the glycan profile is the same as or substantially the same as the glycan profile provided in Figure 23.

24. (Previously Presented) The plant-produced immunoglobulin of claim 1, wherein at least one glycopeptide lacking fucose consists of a glycan without a terminal fucose.

25. (Original) The immunoglobulin of claim 24, wherein the immunoglobulin comprises an asparagine (Asn) residue in the CH2 region.

26. (Previously Presented) The immunoglobulin of claim 24, wherein its glycan profile is determined using matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-Tof MS) analysis of free N-linked glycans enzymatically-released from the immunoglobulin.

27. (Cancelled)

28. (Currently amended) The immunoglobulin of claim ~~[[27]]~~ 26, wherein the immunoglobulin is an anti-herpes simplex virus antibody.

29. (Cancelled)

30. (Withdrawn and Currently amended) The immunoglobulin of claim [[29]] 26, wherein the immunoglobulin is an anti-dual integrin antibody.

31. (Withdrawn) The immunoglobulin of claim 30, wherein the immunoglobulin is an anti- $\alpha V\beta 3$, $\alpha V\beta 5$ dual integrin antibody.

32-37. (Cancelled)

38. (Previously Presented) The immunoglobulin of claim 1, wherein the immunoglobulin is a human immunoglobulin.

39. (Previously Presented) The immunoglobulin of claim 1, wherein the immunoglobulin comprises a heavy chain lacking a tailpiece.

40. (Original) The immunoglobulin of claim 39, wherein the immunoglobulin is an IgA antibody.

41. (Original) The immunoglobulin of claim 39, wherein the immunoglobulin is an anti-herpes simplex virus antibody.

42. (Currently amended) The plant-produced immunoglobulin heavy chain (HC) or light chain (LC) of claim 3, wherein the heavy chain of the immunoglobulin lacks a tailpiece.

43. (Currently amended) The plant-produced immunoglobulin heavy chain (HC) or light chain (LC) of claim 42, wherein the heavy chain is from ~~immunoglobulin~~ is an IgA antibody.

44. (Currently amended) The plant-produced immunoglobulin heavy chain (HC) or light chain (LC) of claim 43, wherein the immunoglobulin IgA antibody is an anti-herpes simplex virus antibody.

45. (Previously Presented) The immunoglobulin of claim 1, wherein the immunoglobulin is isolated from the plant used to produce the immunoglobulin.

46. (Previously Presented) The immunoglobulin of claim 1 comprising at least one glycan having structure number 1 (3Man, 2GlcNAc, 1Xyl) as provided in Figure 12, wherein Man = mannose, GlcNAc – acetylglucosamine and Xyl = xylose.

47. (Withdrawn) The immunoglobulin of claim 1 comprising at least one glycan having structure number 2 (2Man, 2GlcNAc, 1Xyl) as provided in Figure 12, wherein Man = mannose, GlcNAc – acetylglucosamine and Xyl = xylose.

48. (Previously Presented) The immunoglobulin of claim 1 comprising an amino acid fragment lacking an attached glycan with fucose, wherein the immunoglobulin has an attached glycan with fucose on the same amino acid fragment or on substantially the same amino acid fragment when the immunoglobulin is mammalian-produced.

49. (Previously Presented) The immunoglobulin of claim 1 comprising a glycan profile for a specified amino acid fragment, wherein the immunoglobulin has the same or substantially the same glycan profile for the same amino acid sequence or for substantially the same amino acid fragment when the immunoglobulin is mammalian-produced.

50. (Previously Presented) The immunoglobulin of claim 1 comprising an amino acid fragment having an attached glycan lacking fucose, wherein the immunoglobulin also lacks an attached glycan with fucose on the same amino acid fragment or on substantially the same amino acid fragment when the immunoglobulin is mammalian-produced.

51. (Previously Presented) The immunoglobulin of claim 1, wherein the immunoglobulin has a free glycan profile comprising a glycan lacking fucose, wherein the immunoglobulin has a free glycan profile comprising the same glycan also lacking fucose when the immunoglobulin is mammalian-produced.

52. (Previously Presented) The immunoglobulin of claim 48, wherein the mammalian-produced immunoglobulin is produced in a CHO cell.

53. (Previously Presented) The immunoglobulin of claim 48, wherein the plant-produced immunoglobulin is produced in a maize cell and the mammalian-produced immunoglobulin is produced in a CHO cell.

54-66. (Cancelled)

67. (Withdrawn) A method of producing an isolated a monomeric anti-herpes simplex virus antibody comprising: (i) introducing into a plant cell nucleic acids having either SEQ ID NO: 1 or either SEQ ID NO: 5 and SEQ ID NO: 9 or SEQ ID NO: 13, each of which is operably-linked to a promoter, to produce a transformed plant cell; (ii) culturing the transformed plant cell to express the introduced nucleic acids; and (iii) isolating the monomeric anti-herpes simplex virus antibody produced by the plant cell.

68. (Withdrawn) The method of claim 67 further comprising regenerating a transformed plant from the transformed plant cell.

69. (Withdrawn) An isolated nucleic acid molecule comprising a nucleic acid sequence selected from the group consisting of SEQ ID NO: 1; SEQ ID NO: 5; SEQ ID NO: 9; SEQ ID NO: 13; SEQ ID NO: 15 (pDAB635); SEQ ID NO: 16 (pDAB16); SEQ ID NO: 17 (pDAB637); SEQ ID NO: 84 (pDAB3014); SEQ ID NO: 85 (pDAB8505), a nucleic acid sequence encoding an amino acid encoded by SEQ ID NO: 2, a nucleic acid sequence encoding an amino acid encoded by SEQ ID NO: 6, a nucleic acid sequence encoding an amino acid encoded by SEQ ID NO: 10; and a nucleic acid sequence encoding an amino acid encoded by SEQ ID NO: 14.

70.-74. (Cancelled)

75. (Original) The immunoglobulin of claim 1, wherein the immunoglobulin comprises a heavy chain comprising the amino acid sequence of SEQ ID NO: 6.

76. (Original) The immunoglobulin of claim 1, wherein the immunoglobulin comprises a light chain comprising the amino acid sequence of SEQ ID NO: 14.

77. (Cancelled)